ABSTRACT

Many patients are not helped as a result of an improper diagnosis of a disease. The diagnosis can be done by personal thought or by analyzing the output from diagnostic tools. One of the methods in diagnosis is heart diagnosis. By reading improper output of ECG signal can affect wrong analysis to the patient health data. The improper ECG output signal can be caused by noise that occurs as a result of the interupted signal from the power line. In the previous final project by using adaptive filter simulation shown results that the testing didn't have long enough time interval so the analyzed signal didn't have significant interval.

The final project is to design an algorithm ECG signal readout by using the Short Time Fourier Transform (STFT) method that affect the resolution time - frequency. Signal results of the algorithm will be analyzed and processed using the microcontroller. Input of ECG are electrodes that placed on the patient's body, the electrical signal generated from the electrodes, strengthened by strengthening instrumentation, then the signal is filtered by using the results of strengthening Filter Wiener, where the selected input signal is processed and compared with a reference signal which has similar characteristics with input signal. The signal will be entered into a computer and processed with labview application.

This system is expected to create ECG with minimum noise so that the doctor can have more accurate diagnosis result of reading the ECG signal.

Keywords: ECG, Short Time Fourier Transform (STFT), wiener filter.